



# AOTA Evidence Briefs

## Attention Deficit/Hyperactivity Disorder

*\*A product of the American Occupational Therapy Association's Evidence-Based Literature Review Project*

### A#7

## **The use of a parent education manual in combination with medication may reduce the intensity of oppositional behaviors in children with ADHD**

Long, N., Rickert, V. I., & Ashcraft, E. W. (1993). Bibliotherapy as an adjunct to stimulant medication in the treatment of attention-deficit hyperactivity disorder. *Journal of Pediatric Health Care, 7*, 82–88.

### **Level: IA1a**

Randomized control trial, 20 or more participants per group, high internal validity, high external validity

### **Why research this topic?**

Controversy about the exclusive use of stimulant medication with children with attention-deficit/hyperactivity disorder (ADHD) has prompted a search for effective therapies to use in conjunction with medication. Behavioral interventions have proven to be effective in this regard, but cost and availability limit their use.

### **What did the researchers do?**

Long, Rickert, and Ashcraft (1993), all of the University of Arkansas for Medical Sciences (Little Rock), investigated the effectiveness of bibliotherapy as a treatment to use in combination with medication. Bibliotherapy is “reading used as a therapeutic technique” (p. 83)—in this case, reading self-help manuals. The appeal of such a treatment is its cost-effectiveness, the possibility of its widespread use, and its potential to familiarize parents and primary care providers with effective techniques for use with children who have behavior problems. The protocol given to parents was written specifically for this study based on a parent training model developed elsewhere. Since the specific content was not published, it would be difficult to test whether the content per se contributed to the results.

The researchers recruited 32 families whose children were patients at an outpatient pediatric clinic. All the children had been diagnosed with ADHD, and all were taking methylphenidate (Ritalin). The children averaged 8.1 years in age. Twenty-six were boys, 6 were girls.

The children were randomly assigned to an experimental group or a control group. The children in the experimental group continued on their medication during the study. In addition, their families received a document on managing behavior in children with ADHD. The document described the following techniques: attending, rewarding, ignoring, giving directions, using time-out, and using behavioral charts.

The children in the control group also continued on their medication. However, their families did not receive the document on behavior management.

The outcome areas of interest to the researchers were *hyperactivity* (as measured by the Hyperactivity Index of the Conners Parent Rating Scale); *number and intensity of oppositional behaviors* (as measured by the Eyberg Child Behavior Inventory); *number and intensity of behavior problems in home situations* (as measured by the Home Situations Questionnaire); *intensity of general behavior problems* (as measured by the Teacher Rating Scale of the Behavior Rating Profile); and *knowledge of the application of behavioral principles with children* (as measured by a

short version of Knowledge of Behavioral Principles as Applied to Children). Assessments of the first two outcome areas were made before the beginning of the treatment and 2 months after enrollment in the study. Assessments of the second two outcome areas were made posttest measures only. The researchers did not report when assessment of the last outcome area was made, but a statement about findings implies that it also was done 2 months after enrollment.

### **What did the researchers find?**

The experimental group showed **significantly** (see *Glossary*) less intense oppositional behaviors and behavior problems in home situations than the control group. Also, teachers reported significantly less intense behavior problems in the experimental group than in the control group. Parents in the experimental group showed a trend (a difference approaching significance) toward greater knowledge of behavior principles as applied to children than parents in the control group.

### **What do the findings mean?**

For therapists and other providers, the findings suggest that bibliotherapy can reduce the intensity of oppositional behaviors in children with ADHD. However, the researchers recommend its use in the primary care setting only when behavioral interventions by professionals are not feasible.

### **What are the study's limitations?**

This study examines a simple, cost-effective intervention for children with ADHD (i.e., giving parents reading material on behavioral management strategies). However, the protocols that parents were given to read were rewritten and adapted specifically for this study, but not published in this or another article. Therefore, it is not clear how to determine whether it was the content that was beneficial. Unfortunately, the sample size was small due to a 33% dropout rate. Rather than use the more appropriate pre-post statistical analysis, numerous *t*-tests were performed on the post-treatment measures. The effects were marginal considering the large number of *t*-tests, but this preliminary data suggest directions for future research on a potentially valuable intervention.

## **Glossary**

**significance (or significant)**—A statistical term, this refers to the probability that the results obtained in the study are not due to chance, but to some other factor (such as the treatment of interest). A significant result is likely to be generalizable to populations outside the study.

Significance should not be confused with clinical effect. A study can be statistically significant without having a very large clinical effect on the sample. For example, a study that examines the effect of a treatment on a client's ability to walk may report that the participants in the treatment group were able to walk significantly longer distances than the control group. However, if you read the study you may find that the treatment group was able to walk, on average, 6 feet, whereas the control group was able to walk, on average, 5 feet. Although the outcome may be statistically significant, a clinician may not believe that a 1-foot increase will improve his or her client's function.

■ Terminology used in this document is based on two systems of classification current at the time the evidence-based literature reviews were completed: *Uniform Terminology for Occupational Therapy Practice—Third Edition* (AOTA, 1994) and *International Classification of Functioning, Disability and Health (ICIDH-2)* (World Health Organization [WHO], 1999). More recently, the *Uniform Terminology* document was replaced by *Occupational Therapy Practice Framework: Domain and Process* (AOTA, 2002), and modifications to *ICIDH-2* were finalized in the *International Classification of Functioning, Disability and Health* (WHO, 2001).

This work is based on the evidence-based literature review completed by Erna Imperatore Blanche, PhD, OTR/L, FAOTA, and Gustavo Reinoso, OTR/L. Contributions to the evidence brief were provided by Michele Youakim, PhD.

For more information about the Evidence-Based Literature Review Project, contact the Practice Department at the American Occupational Therapy Association, 301-652-6611, x 2040.

